The specification has now been amended to correct grammatical, typographical and idiomatic errors. No new matter has been added.

§112 Objections

Claims 1-22 are pending. The Examiner has objected to claims 1 and 21 on the basis that it is not clear what is meant by "noise domain" and because claim 21 depends from itself. In particular, the Examiner has requested an explanation of "noise domain" as it appears in claim 1, line 6. The specification at pages 6-7 discusses how the parameters for background noise are obtained by the VSELP encoder and supplied to the noise domain detection circuit. Then, at pages 11-13, the specification explains how the noise domain detection circuit makes a determination of whether a frame is a noise frame, i.e. a frame without speech signals. The signal level of encoded speech frames received immediately after turning on the transmitter, during standby and during lulls in the conversation are identified as noise frames. From the discussion in the specification, it can be seen that the term "noise domain" applies to the background noise signal received at the microphone of the system during times when there is no speech. See also the discussion at pages 15-21 of Fig. 2. It is respectfully submitted that the term "noise domain" as used in the specification and claims would be clearly understood by one having ordinary skill in the art to which this invention pertains in view of the explanation of the term in the specification.

Claim 21 has been amended to depend from claim 20.

§112 Rejections

Claims 1-22 have been rejected under 35 U.S.C. § 112, second paragraph for a variety of reasons as articulated by the

Examiner in the Office Action. Applicants respectfully submit that the amendments to the rejected claims meet the requirements of 35 U.S.C. § 112 and more particularly point out and distinctly claim Applicants' invention.

Claim 1 has also been amended to recite the connection between the noise domain detection means and the rest of the system. As now worded, claim 1 now makes clear that the noise domain detection means is supplied with analytic patterns produced by the VSELP encoder during compression of the input speech signals for detecting a noise domain of the input speech signals. The "receiving apparatus" recited in the preamble is now part of the "transmitting and receiving circuit for transmitting and receiving the compressed speech signals."

In addition, Claim 7 is amended to recite "the noise domain" which derives antecedence from claim 1. Claim 8 is amended to recite "a noise level detection means" because it is the first reference to the element within the claims. Claim 17 is amended to recite "transmitting and receiving apparatus", as suggested by the Examiner, to definitely claim the subject matter of claim 17. The Examiner's suggestions for clarifying the claim language are appreciated.

Prior Art Rejections

Claims 1 and 17-22

The Examiner has rejected claims 1 and 17-22 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,628,529 ("Borth et al."). Applicants respectfully submit that amended claims 1 and 17-22 are not anticipated by Borth et al.

The present invention finds its application in, e.g. a portable telephone where it is desired to control the volume of an audibly reproduced signal received from a remote transmitter so as to

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overcome background noise surrounding the user of the portable telephone. Thus, it is an object of the present invention to control the volume of the reproduced speech signal sent from a remote transmitter to the portable telephone to be loud enough to be heard over the ambient noise surrounding the user of the portable telephone. See pages 2-3, page 11, lines 21-23, and page 12, lines 17-21. This feature is now more clearly set forth in the amended claims.

Borth et. al. do not teach or suggest both a transmitting and a receiving apparatus nor controlling the volume of **reproduced sound signals transmitted to a receiver** as a function of detected ambient noise surrounding the receiver. At best, Borth et al. only suggest a noise suppression circuit for "controlling the volume" of the speech entering the microphone, i.e. by subtracting out noise, as a function of noise detected in the signal received by the microphone. But Borth et al. do not control the volume of reproduced sound signals being received from a remote transmitter. In particular, Borth et al. do not teach or suggest **any** of a vector sum excited linear prediction **(VSELP) encoder** for compressing input speech signals by digital signal processing at a high efficiency, **a transmitting and receiving circuit** for transmitting the compressed speech signals output by the VSELP encoder and for receiving compressed speech signals received from another transmitter and reproducing a corresponding received sound, **noise domain detection means** supplied with analytic patterns produced by the VSELP encoder during compression of the input speech signals for detecting a noise level of a noise domain of the input speech signals, or **means for controlling the sound volume of the reproduced, received sound** responsive to the noise level detected by the noise domain detection means, all of which are required by claims 1-16, inclusive.

Further, Borth et al. do not teach or suggest a transmitter and a receiver comprising noise level detection means for detecting a

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sound signal level entering a transmitting microphone as a noise level when there is no transmitting speech input at the transmitter, and control means for **controlling the reproduction volume of a received sound from another transmitter responsive to the noise level** detected by the noise level detection means, as required by claims 17-22, inclusive.

Claims 2-16

The Examiner has rejected claims 2-16 under 35 U.S.C. §103 as being unpatentable over Borth et al. in view of "Vector Sum Excited Linear Prediction (VSELP) Speech Coding At 8 KBPS", Ira A. Gerson and Mark A. Jasiuk ("Gerson et al."). It is respectfully submitted that Applicants' invention as set forth in claims 2-16 is not obvious in view of the cited prior art.

The Examiner's statement in the Office Action at page 7, lines 19-24, that "It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use linear prediction encoding coefficients as the analytic parameter to determine whether a noise domain is present because this achieves high speech quality while maintaining reasonable complexity (Pg 1, left col, 4th paragraph)" is a non-sequitur and does not create a prima facie case of obviousness. It is a purely conclusory statement, unsupported by the reference.

Gerson et al. teach speech coding using VSELP parameters, however, neither the Applicants nor the undersigned could find any disclosure in Gerson et al. which teaches or suggests *using a VSELP encoder or any analytic parameters produced by it to detect noise or to control the volume* of a received sound signal. The Applicants respectfully disagree that the portions of Gerson et al. cited by the Examiner support such a contention. There appears to be nothing in those portions of the Gerson et al. text which disclose or suggest detecting noise at all. The Examiner is respectfully requested to

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clarify which portions of Gerson et al. the Examiner is relying on to support his contention that Gerson et al. teaches or suggests noise domain detection means. All that Gerson et al. appear to disclose is a VSELP encoder and nothing more. The leap to the conclusion that it would be obvious to employ such a VSELP encoder to detect a noise domain is purely in the hindsight of the present specification.
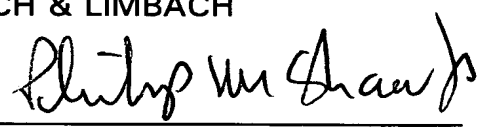
Thus, the rejection of claims 2-16 must fail on two counts. First, as argued above, Borth et al. do not teach or suggest controlling the volume of a reproduced received sound signal as a function of the ambient noise (as more particularly detailed in the claim language paraphrased above in regard to claim 1) nor do Gerson et al. teach or suggest using a first-order linear prediction encoding coefficient as an analytic parameter for each frame of a plurality of frames and deeming a frame to be a noise domain if the first-order linear prediction encoding coefficient is smaller than a pre-set threshold, as is required by claims 2-16.

In view of the above, it is respectfully submitted that claims 1-22 are in condition for allowance. The Examiner's reconsideration and further examination are respectfully requested.

Respectfully submitted,

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